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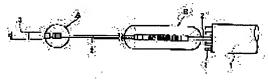
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(54) COMMUNICATION LINE IDENTIFYING METHOD IN HOUSE WIRING

(57) Abstract:

PROBLEM TO BE SOLVED: To specify a cable at the terminals of individual communication lines drawn out of the cable.

SOLUTION: Based on communication line identifying codes(ID codes) 4 applied to communication lines 2 for identifying the communication lines in the same cable, cable identifying codes 5 having the same coloring are applied near the terminals of the individual communication lines 2 and adjacent to the communication line identifying codes 4. The collation of both cable identifying codes 5 causes the cable to be specified for the individual communication lines 2 in house wirings.





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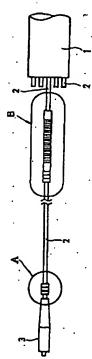
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(54) 【発明の名称】 所内配線の通信線の識別方法

(57)【要約】

【課題】ケーブルから引き出された個々の通信線の端末 部においてそのケーブルを特定できるようにすることを その課題とすること。

【解決手段】同一ケーブル内の通信線の識別のための通信線識別符号(ID符号)4を各通信線2に付していることを前提として、個々の通信線2の端末部近傍と通信線識別符号4に隣接する位置とに同じカラーリングによるケーブル識別符号5を付し、この両ケーブル識別符号5の照合によって個々の所内配線の通信線2のケーブルを特定すること。



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【特許請求の範囲】

【請求項1】同一ケーブル内の通信線の識別のための通信線職別符号を各通信線に付し、個々の通信線の端末部近傍と通信線識別符号に隣接する位置とに同じカラーリングによるケーブル識別符号を付し、この両ケーブル設別符号の照合によって個々の所内通信線のケーブルを特定する、所内配線の通信線の識別方法。

【請求項2】複数の異なる着色線を組み合わせて上記カラーリングを構成した請求項1記載の所内配線の通信線の識別方法。

【請求項3】 着色線の幅の違いの組み合わせによって上記ケーブル識別符号を構成した請求項1 記載の所内配線の通信線の識別方法。

【請求項4】色の違いと着色線の幅の違いによって上記 カラーリングを構成した請求項1記載の所内配線の通信 線の識別方法。

【発明の詳細な説明】

[0001]

【産業上の利用分野】この発明は、電話交換機室等における所内配線職別方法に関するものであり、多数の通信ケーブルから引き出された無数の通信線が混在している環境下において、各通信線の職別符号をその端末部において容易に職別できるようにするために有効なものである。

[0002]

【従来の技術】一本の通信ケーブルには多数の通信線が 内蔵されており、殊に電話回線の光通信ケーブルにおい ては、一本の光ケーブルに2000本の光ファイバ心線 (通信線) が内蔵されているが、近い将来に4000本 になることが予定されている。電話交換機室において は、多数の光ケーブルから引き出された無数の通信線が 混在した状態で、その端末のコネクタが電話交換機の差 し込み口に接続されている。各光ケーブルに内蔵されて いる光ファイバ心線には、通信線識別のための識別符号 (ID符号) が付されている。他方、電話交換機に対す る個々の光ファイバ心線のコネクタの接続位置は種々の 理由により変更されるが、この変更作業においては、光 ファイバ心線の端末部においてそのID符号を確認する 必要がある。しかし、識別すべき光ファイバ心線数が極 めて多数(上記のように2000本、ないしは4000 本)であるために、ID符号(例えばバーコードによる **識別符号)を印刷したテープが長くならざるを得ず、こ** のためにID符号を印刷したテープをコネクタの近傍に 巻き付けると、当該コネクタ近傍における光ファイバ心 線の可撓性が損なわれて、光ファイバ心線端末部の取り 回しが困難になり、あるいはコネクタの近傍でファイバ が折損される恐れがある。このため、ID符号は光ファ イパ心線のコネクタ近傍には付されていない。また異な るケーブルから引き出された多数の光ファイバ心線が、 端末部とケーブル出口の間で纏められてとぐろ巻きにさ.50 れているので、個々の光ファイバ心線の端末部から遠く 離れた位置に付された I D符号を確認することは容易で はなく、相当な手間を要する。さらに、光ファイバ心線 に付されたID符号によって同じ光ケーブル内の光ファ イバ心線間の識別は可能であるが、他の光ケーブルにも 同じ識別符号を付された光ファイバ心線が存在する可能 性があるので、多数の光ケーブルの光ファイバ心線が混 在する電話交換機室内においては、既に付されているⅠ D符号だけでは、個々の光ファイバ心線を識別すること ができないという問題がある。ところで、個々の通信線 の端末部(コネクタ近傍)においてその通信線のケープ. ルを識別できれば、そのケーブルを容易に特定できるの で、個々の通信線の識別を比較的容易に行うことができ る。ただし、ケーブルを特定するための識別表示を端末 部に付するについては、通信線の端末部近傍の可撓性が その職別表示によって阻害されるものでないことが必要 である。

[0003]

【発明が解決しようとする課題】この発明は、ケーブル から引き出された個々の通信線の端末部においてそのケーブルを特定できるようにすることをその課題とするものである。

. [0004]

【課題を解決するための手段】上記課題解決のために講じた手段は、同一ケーブル内の通信線の識別のための通信線識別符号(I D符号)を各通信線に付していることを前提として、個々の通信線の端末部近傍と通信線識別符号に隣接する位置とに同じカラーリングによるケーブル識別符号を付し、この両ケーブル識別符号の照合によって個々の所内配線の通信線のケーブルを特定することである。

[0005]

【作 用】上記カラーリングによるケーブル識別符号に よって個々のケーブルが識別され、また個々の通信線の 端末部近傍と通信線職別符号に隣接する位置とに付され た同色のカラーリングによるケーブル識別符号とが一致 することをもって、個々の通信線のケーブルを当該通信 線の端末部で識別することができる。また、異なるケー ブルから引き出された無数の通信線に、通信線識別符号 (以下、これを単に「ID符号」という) と同じである 通信線が複数混在していても、カラーリングによるケー ブル識別符号(以下、これを単に「カラーリング」とい う)とID符号との組み合わせによって、これらを分別 することができる。そして、ケーブル識別のためのカラ ーリングは2~3色、多くても数色の幅狭の着色線を組 み合わせたもので十分であるから、このカラーリングの 通信線方向の幅は小さく、したがって、端末近傍におけ る通信線の可撓性を阻害することはない。

[0006]

【実 施 例】次いで図面を参照しつつ実施例を説明す

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る。この実施例は光通信ケーブルに本発明を適用した例 である。光ケーブル1から2000本の光ファイバ心線 (通信線) 2が引き出されており、個々の光ファイバ心 線2の先端にコネクタ3が設けられている。個々の光フ ァイパ心線 2 には、端末部から遠く離れた位置におい て、バーコードを印刷した識別テープを巻き付け、これ を透明チューブで被覆することによって I D 符号 4 を附 している (この点は従来技術と同じ)。 コネクタ3の近 傍とID符号4の近傍とにそれぞれ同じカラーリング 5、5を巻き付け、これを透明チューブで被覆してい る。同じケーブル1から引き出されている全ての光ファ イバ心線に同じカラーリング5を付加しているものであ り、左から順に赤、紺、緑の線を並べて印刷したテープ を光ファイバ心線に巻き付けたものであり、この3色の 組み合わせによってケーブル識別符号を構成するもので ある。他方、他のケーブルの心線には例えば、赤、緑、 紺の順番のカラーリングを付して区別をつける。この着 色の種類、あるいは着色の組み合わせを一定の法則に従 って違えることによって多数のケーブルの識別符号が構 成される。なお、この各着色線の幅は目視による識別に 支障のない範囲とすればよいが、この例では1mmであ る。赤、紺、緑の色の組み合わせによるコネクタ3の近 傍のカラーリング5とパーコードによるID符号4に隣 接したカラーリング5との一致をもって、個々の光ファ イバ心線2の光ケーブル1を特定した上で、コネクタ3 から離れた位置に付されたID符号4を読み取ることに より、その光ファイバ心線2のID符号4を比較的容易 に確認できる。以上の実施例は赤、紺、緑の3色を組み 合わせたカラーリング5を用いた例であるが、カラーリ ング5に採用する色は誤りなく目視で識別できるような 30 鮮明な色であることが肝要である。ケーブル数が数本で ある場合は、カラーリングは単一色のカラーリング、あ るいは2色の線を組み合わせたカラーリングでよく、ケ ーブルの識別数が数十本に及ぶ場合は4色、5色を組み 合わせたカラーリングにすればよい。また、同色で幅が

明らかに異なる線(例えば3mm幅の線と1mm幅の線と0.3mm幅の線)の組み合わせ、あるいは線の幅の 違いと色の違いとの組み合わせによってカラーリングを 構成してもよい。

[0007]

【効 果】以上記述したとおり、多数の通信ケーブルか ら引き出された多数の通信線が混在している所内配線に おいて、その端末部に付されたケーブル臨別符号(カラ ーリング)によって、個々の通信線のケーブルを一見し て確認でき、このケーブル職別符号を頼りにしながら、 端末部から離れたところに付された、各通信線の識別符 号を比較的容易、速やかに確認することができる。そし て、同一ケーブルの通信線識別のためのID符号とカラ ーリングによるケーブル識別符号との組み合わせによっ て、多数のケーブルから引き出された無数の所内配線 (通信線) について、所内全通信線識別のための識別符 号化が可能であるから、簡単、容易に配線管理のための 所内配線のデータベース化を図ることができ、このデー タベースに基づいて所内配線の配線管理を合理化し、能 率化することができる。また、コネクタ近傍のケーブル 識別符号と各通信線に付された識別符号近傍の同一ケー ブル識別符号とを照合できるから、各通信線に付された 識別符号を任意の位置に付しても特に不都合がなくな

り、したがって、各通信線の識別符号を取り付ける位置

【図面の簡単な説明】

【図1】実施例の平面図である。

を自由に選択することができる。

·【図2】図1におけるA部の拡大図である。

【図3】図1におけるB部の拡大図である。

【符号の説明】

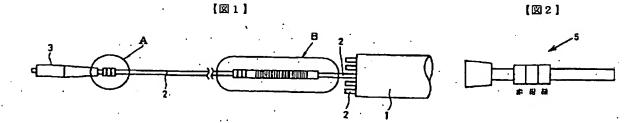
1・・・通信ケーブル

2・・・光ファイバ心線 (通信線)

3・・・コネクタ

4· · · I D符号 (通信線職別符号)

5・・・カラーリング(ケーブル識別符号)



[図3]



フロントページの続き

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DETAILED DESCRIPTION

[Detailed Description of the Invention] [0001]

[Industrial Application] In the bottom of the environment where the countless communication wire pulled out from many telecommunication cables is intermingled about the within-a-station wiring discernment approach in a telephone-exchange cabin etc., this invention is effective in order to enable it to identify the identification code of each communication wire easily in that terminal section.

[0002]

[Description of the Prior Art] Although many communication wires are built in one telecommunication cable and 2000 plastic coated fibers (communication wire) are especially built in one optical cable in the optical fiber cable of the telephone line, becoming 4000 in the near future is planned. In the telephoneexchange cabin, it is in the condition in which the countless communication wire pulled out from many optical cables was intermingled, and the connector of the terminal is connected to the opening of a telephone switchboard. The identification code for communication-wire discernment (ID code) is given to the plastic coated fiber built in each optical cable. On the other hand, although the connecting location of the connector of each plastic coated fiber to a telephone switchboard is changed for various reasons, in this modification, it is necessary to check that ID code in the terminal section of a plastic coated fiber. However, since the numbers of plastic coated fibers which should be identified are a large number (as mentioned above 2000 or 4000) very much the tape which printed the ID code (for example, identification code by the bar code) -- long -- not becoming, if the tape which did not obtain, for this reason printed the ID code is twisted near the connector There is a possibility that the flexibility of a plastic coated fiber [/ near / concerned / the connector] may be spoiled, and management of an optical fiber alignment end-of-line tail may become difficult, or a fiber may break near the connector. For this reason, the ID code is not attached near the connector of a plastic coated fiber. Moreover, since the plastic coated fiber of a large number pulled out from a different cable is made into ***** summarized and ground between the terminal section and a cable outlet, checking the ID code given to the location distant distantly [section / of each plastic coated fiber / terminal] requires considerable time and effort rather than it is easy. Furthermore, although the discernment between the plastic coated fibers in the same optical cable is possible, since the plastic coated fiber to which the same identification code as other optical cables was given may exist by the ID code given to the plastic coated fiber, there is a problem that not each plastic coated fiber is discriminable, only by the ID code already attached in the telephone-exchange cabin where the plastic coated fiber of many optical cables is intermingled. By the way, if the cable of the communication wire is discriminable in the terminal section (a near connector) of each communication wire, since the cable can be specified easily, each communication wire can be identified comparatively easily. However, about ** which gives the discernment display for specifying a cable to the terminal section, it is required for the flexibility near the terminal section of a communication wire not to be what is checked by the discernment display.

[Problem(s) to be Solved by the Invention] This invention makes it that technical problem to enable it to specify that cable in the terminal section of each communication wire pulled out from the cable. [0004]

[Means for Solving the Problem] The means provided for the above-mentioned technical-problem solution is attaching the cable distinction sign by the same coloring as the location which adjoins each communication-wire identification code near the terminal section of a communication wire on the

assumption that the communication-wire identification code for discernment of the communication wire in the same cable (ID code) is given to each communication wire, and specifying the cable of the communication wire of each wiring within a station by collating of both this cable distinction sign. [0005]

[work --] for It can have that the cable distinction sign by coloring of the same color given to the location which each cable is identified by the cable distinction sign by the above-mentioned coloring, and adjoins each communication-wire identification code near the terminal section of a communication wire is in agreement, and the cable of each communication wire can be identified in the terminal section of the communication wire concerned. Moreover, even if two or more same communication wires as a communication-wire identification code (this is only hereafter called "ID code") are intermingled in the countless communication wire pulled out from a different cable, the combination of the cable distinction sign (this is only hereafter called "coloring") and ID code by coloring can classify these. And since coloring for cable distinction is what combined the narrow coloring line of **** even if many two to 3 color and is enough, the width of face of the direction of a communication wire of this coloring is small, therefore the flexibility of a communication wire [/ near the terminal] is not checked.

[The example of fruit **] Subsequently, an example is explained, referring to a drawing. This example is an example which applied this invention to the optical fiber cable. 2000 plastic coated fibers (communication wire) 2 are pulled out from the optical cable 1, and the connector 3 is formed at the tip of each plastic coated fiber 2. In the location distant distantly [section / terminal], the discernment tape which printed the bar code is twisted around each plastic coated fiber 2, and ID code 4 is given to it by covering this with a transparence tube (this point is the same as the conventional technique). The respectively same coloring 5 and 5 was twisted near ID code 4 near the connector 3, and this is covered with the transparence tube. The same coloring 5 as all the plastic coated fibers currently pulled out from the same cable 1 is added, the tape which put in order and printed red and a dark blue and green line sequentially from the left is twisted around a plastic coated fiber, and the combination of these three colors constitutes a cable distinction sign. On the other hand, coloring of red and green and dark blue sequence is given to the core wire of other cables, and distinction is attached. The identification code of many cables is constituted by changing the class of this coloring, or the combination of coloring according to a fixed principle. In addition, although what is necessary is just to make width of face of each of this coloring line into the range which does not have trouble in discernment by viewing, in this example, it is 1mm. ID code 4 of the plastic coated fiber 2 can be checked comparatively easily by reading ID code 4 given to the location distant from the connector 3 after having coincidence with the coloring 5 near the connector 3 by the combination of red and a dark blue and green color, and the coloring 5 which adjoined ID code 4 by the bar code and specifying the optical cable 1 of each plastic coated fiber 2. Although the above example is an example using the coloring 5 which combined red and three dark blue and green colors, as for the color adopted as coloring 5, it is important that it is the clear color which is mistaken and can be identified visually that there is nothing. What is necessary is for coloring of a single color or coloring which combined the line of two colors to be sufficient as coloring. when the number of cables is [several], and just to make it coloring which combined four colors and five colors, when the number of discernment of a cable attains to dozens of. Moreover, width of face may constitute coloring from the same color with the combination of a clearly different line (for example, the line which is 3mm width of face, the line of 1mm width of face, and the line of 0.3mm width of face), or the combination of the difference in the width of face of a line, and the difference in a color.

[0007]

[Effect **] The identification code of each communication wire attached at the place distant from the terminal section can be checked comparatively easily and promptly, being able to check the cable of each communication wire at a glance with the cable distinction sign (coloring) given to that terminal section in wiring within a station with which the communication wire of a large number pulled out from many telecommunication cables is intermingled, and making this cable distinction sign reliance as described above. And with the combination of the ID code for communication-wire discernment of the same cable, and the cable distinction sign by coloring, about countless wiring (communication wire) within a station pulled out from many cables, since identification-code-izing for communication-wire discernment within a station [all] is possible, database creation of wiring within a station for wiring management can be attained simply and easily, and based on this database, wiring management of

wiring within a station can be rationalized, and it can streamline. Moreover, since the cable distinction sign near the connector and the same cable distinction sign near [which was given to each communication wire] the identification code can be collated, the location in which un-arranging is lost especially even if it gives the identification code given to each communication wire to the location of arbitration, therefore the identification code of each communication wire is attached can be chosen freely.

[Translation done.]

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MEANS

[Means for Solving the Problem] The means provided for the above-mentioned technical-problem solution is attaching the cable distinction sign by the same coloring as the location which adjoins each communication-wire identification code near the terminal section of a communication wire on the assumption that the communication-wire identification code for discernment of the communication wire in the same cable (ID code) is given to each communication wire, and specifying the cable of the communication wire of each wiring within a station by collating of both this cable distinction sign. [0005]

[work --] for It can have that the cable distinction sign by coloring of the same color given to the location which each cable is identified by the cable distinction sign by the above-mentioned coloring, and adjoins each communication-wire identification code near the terminal section of a communication wire is in agreement, and the cable of each communication wire can be identified in the terminal section of the communication wire concerned. Moreover, even if two or more same communication wires as a communication-wire identification code (this is only hereafter called "ID code") are intermingled in the countless communication wire pulled out from a different cable, the combination of the cable distinction sign (this is only hereafter called "coloring") and ID code by coloring can classify these. And since coloring for cable distinction is what combined the narrow coloring line of **** even if many two to 3 color and is enough, the width of face of the direction of a communication wire of this coloring is small, therefore the flexibility of a communication wire [/ near the terminal] is not checked.

[The example of fruit **] Subsequently, an example is explained, referring to a drawing. This example is an example which applied this invention to the optical fiber cable. 2000 plastic coated fibers (communication wire) 2 are pulled out from the optical cable 1, and the connector 3 is formed at the tip of each plastic coated fiber 2. In the location distant distantly [section / terminal], the discernment tape which printed the bar code is twisted around each plastic coated fiber 2, and ID code 4 is given to it by covering this with a transparence tube (this point is the same as the conventional technique). The respectively same coloring 5 and 5 was twisted near ID code 4 near the connector 3, and this is covered with the transparence tube. The same coloring 5 as all the plastic coated fibers currently pulled out from the same cable 1 is added, the tape which put in order and printed red and a dark blue and green line sequentially from the left is twisted around a plastic coated fiber, and the combination of these three colors constitutes a cable distinction sign. On the other hand, coloring of red and green and dark blue sequence is given to the core wire of other cables, and distinction is attached. The identification code of many cables is constituted by changing the class of this coloring, or the combination of coloring according to a fixed principle. In addition, although what is necessary is just to make width of face of each of this coloring line into the range which does not have trouble in discernment by viewing, in this example, it is 1mm. ID code 4 of the plastic coated fiber 2 can be checked comparatively easily by reading ID code 4 given to the location distant from the connector 3 after having coincidence with the coloring 5 near the connector 3 by the combination of red and a dark blue and green color, and the coloring 5 which adjoined ID code 4 by the bar code and specifying the optical cable 1 of each plastic coated fiber 2. Although the above example is an example using the coloring 5 which combined red and three dark blue and green colors, as for the color adopted as coloring 5, it is important that it is the clear color which is mistaken and can be identified visually that there is nothing. What is necessary is for coloring of a single color or coloring which combined the line of two colors to be sufficient as coloring, when the number of cables is [several], and just to make it coloring which combined four colors and

five colors, when the number of discernment of a cable attains to dozens of. Moreover, width of face may constitute coloring from the same color with the combination of a clearly different line (for example, the line which is 3mm width of face, the line of 1mm width of face, and the line of 0.3mm width of face), or the combination of the difference in the width of face of a line, and the difference in a color.

[0007]

[Effect **] The identification code of each communication wire attached at the place distant from the terminal section can be checked comparatively easily and promptly, being able to check the cable of each communication wire at a glance with the cable distinction sign (coloring) given to that terminal section in wiring within a station with which the communication wire of a large number pulled out from many telecommunication cables is intermingled, and making this cable distinction sign reliance as described above. And with the combination of the ID code for communication-wire discernment of the same cable, and the cable distinction sign by coloring, about countless wiring (communication wire) within a station pulled out from many cables, since identification-code-izing for communication-wire discernment within a station [all] is possible, database creation of wiring within a station for wiring management can be attained simply and easily, and based on this database, wiring management of wiring within a station can be rationalized, and it can streamline. Moreover, since the cable distinction sign near the connector and the same cable distinction sign near [which was given to each communication wire] the identification code can be collated, the location in which un-arranging is lost especially even if it gives the identification code given to each communication wire to the location of arbitration, therefore the identification code of each communication wire is attached can be chosen freely.

[Translation done.]

* NOTICES *

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- 1. This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.**** shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the top view of an example.

[Drawing 2] It is the enlarged drawing of the A section in drawing 1.

[Drawing 3] It is the enlarged drawing of the B section in drawing 1.

[Description of Notations]

- 1 ... Telecommunication cable
- 2 ... Plastic coated fiber (communication wire)
- 3 ... Connector
- 4... ID code (communication-wire identification code)
- 5 ... Coloring (cable distinction sign)

[Translation done.]